

Remarks:

Prior to entry of the present amendments, claims 1-35 remained pending in the application. Claims 10 and 23 have been withdrawn from consideration. Claims 1-9, 11-22, and 24-35 stand rejected under 35 U.S.C. § 102(b) based on Slobodin (US Patent No. 6,334,685). Claims 1, 7, 15, 19, 21, 30 and 34 are amended herein. In view of the above amendments and the remarks below, applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims.

Rejections under 35 U.S.C. § 102(b)

Claims 1-9, 11-22, and 24-35 are rejected under 35 U.S.C. § 102(b) as being anticipated by Slobodin (U.S. Patent No. 6,334,685). Without acknowledging the propriety of the rejection, applicants take this opportunity to amend the claims to more particularly define their invention.

Specifically, applicants have amended claim 1 to recite a display device that includes a spectral separator that refractively separates light into a plurality of light bands. Support for the amendment is found in the specification at page 4, line 23 to page 5, line 12; and at Fig. 3. Applicants have similarly amended claims 15, 19, 30, and 34 reciting a method of making a display device, a method of forming a projected image, a storage medium, and a display device, respectively.

In order to anticipate a claim, a cited reference must teach each and every element of the claim. As amended, the claims recite a spectral separator configured to refractively separate light into a plurality of bands. Applicants assert that Slobodin fails to disclose a refractive spectral separator.

Page 7 - AMENDMENT
Serial No. 10/608,972
HP Docket No. 200208828-1
KH Docket No. HPCC 390

Slobodin teaches a color modulating device that includes color filter wheels. Specific embodiments of color filter wheels are depicted in Figs. 7A-B, 9A-B, 10A-B, 11A-B, and 12A-B. Each of the rotating color wheels of Slobodin utilize color filters to perform spectral separation. That is, as white light impinges on the color wheel, it is selectively transmitted or reflected based upon wavelength. As stated by Slobodin at col. 2, lines 26-32, "the color modulating device employs multiple color wheels each having filter segments that form the three light beams by reflecting the alternating, mutual exclusive colors as the wheels rotate." The end result, as shown in Figures 8A-8C, is that light beams of differing colors are produced. However, such light beams are produced by selected transmission and reflection of an incident light beam. Slobodin does not disclose or suggest a spectral separator configured to "refractively separate" light, as recited in amended claims 1 and 15, does not disclose or suggest refractively separating light, as recited in amended claims 19 and 30, and does not disclose or suggest "means for refractively separating" light as recited in amended claim 34. The rejection of claims 1, 15, 19, 30 and 34 under 35 U.S.C. § 102(b) thus must be withdrawn.

Applicants further assert that as claims 1, 15, 19, 30, and 34 are not anticipated by Slobodin, that claims 2-9, 11-14, 16-18, 20-22, 24-29, 31, 32, and 35 (which depend from claims 1, 15, 19, 30 and 34) are not anticipated by Slobodin.

Furthermore, with respect to claim 6, the Examiner indicates that Figures 11A and 12A of Slobodin disclose a prismatic type color wheel. The Office action proposes a definition of prism as a body that is "used to refract or disperse a beam of light". Applicants disagree that the color wheels of Figures 11A and 12A disclose a prism or a refractive spectral separator.

Page 8 - AMENDMENT
Serial No. 10/608,972
HP Docket No. 200208828-1
KH Docket No. HPCC 390

Color wheel 22 is shown in Figures 7A, 7B. In particular, color wheel 22 includes segments 90G, 90B, and 90R. These segments are described as "120-degree dichroic filter segments" at col. 5, lines 11-16. A dichroic filter, as used in Slobodin, is designed to reflect light over a certain range of wavelengths, and transmit light which is outside that range. This is verified by the depicted action of color wheel 22 as shown in Figures 8A-8C. The incoming white light is transmitted or reflected at each filter segment depending on wavelength, to yield red, blue, and green light beams.

Similarly, color wheel 120 includes filter segments 90G, 90B, and 90R on surface 122, filter segments 92B, 92G, and 92R on surface 124, and filter segments 94B, 94G, and 94R on third surface 126. Exactly analogously to color wheel 22, the light incident on color wheel 120 is being selectively transmitted or reflected by the dichroic filter segments applied to the external and internal surfaces of the double conical color wheel, as is also true for color wheel 130 of Figures 12A and 12B, where the dichroic filters are present on surfaces 132, 134, and optionally 136.

In each case, Slobodin fails to disclose the spectral separation of multispectral light by refraction. Further, as indicated by the Office Action, a prism is used to refract or disperse a beam of light. Applicants assert that the color wheels of Slobodin transmit or reflect, and thus do not either refract or disperse a beam of light. Accordingly, it is not appropriate to label color wheel 120 or color wheel 130 as prisms.

Applicants note that the use of a refractive spectral separator offers significant advantages over the rapidly rotating color wheel of Slobodin. For example, each of the embodiments depicted by Slobodin requires a motor 80 for rapidly rotating the color wheel. In addition, the color segments of Slobodin must be carefully aligned in order for the color wheel to be effective, while the rotation of the color wheel must be carefully

synchronized with light valve 48 (see col. 4, lines 18-49) in order to produce the desired image. This type of mechanism is generally expensive, overly susceptible to damage, and noisy during operation.

In view of the amendments and remarks above, applicants assert that the Slobodin reference fails to anticipate claims 1-9, 11-22, and 24-35, and therefore respectfully request withdrawal of the rejection of the claims under 35 U.S.C. § 102(b).

The Examiner is invited to contact the undersigned if the Examiner has any questions.

Respectfully submitted,

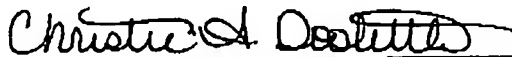
KOLISCH HARTWELL, P.C.



Walter W. Kamstein
Registration No. 35,565
Customer No. 23581
520 S.W. Yamhill Street, Suite 200
Portland, Oregon 97204
Telephone: (503) 224-6655
Facsimile: (503) 295-6679
Attorney for Applicants

CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to Examiner M. Koval, Group Art Unit 2851, Commissioner for Patents, at facsimile number (703) 872-9306 on November 10, 2004.



Christie A. Doolittle

Page 10 - AMENDMENT
Serial No. 10/608,972
HP Docket No. 200208828-1
KH Docket No. HPCC 390